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JULY, 1918

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Edited by Samuel Adams



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Green's American Fruit Grower

A Monthly Magazine Devoted to Fruit Growing and Marketing

VOL. XXXVIII

JULY, 1918

No. 7

The Official Apple Crop Report for 1918

By L. M. Estabrook, Chief of the Bureau of Crop Estimates

Comments

THE ABOVE condition figures indicate the per cent of a full crop estimated in the various States on June 1st. These estimates were made in most cases before the June drop occurred and are therefore exceedingly temporary. No quantity estimate is made for the States at this time, but a reliable quantity estimate of the commercial crop will be made in the July report. The first column refers to early varieties only, or those normally consumed before September 15th. They are well advanced for this season of the year and estimates for the early varieties are therefore less subject to change. The last two columns refer to condition of all apples on June 1st. The following comments apply to the commercial crop of the country, which is made up of over 90% late varieties of apples.

The condition of apples for United States at this time is indicated as about average, with several uncertain factors showing up which may tend to decrease the crop.

The most salient features of the report are the indication for a big New York crop, a light Maine crop, a good Michigan crop, a medium Virginia crop, a medium Middle Western crop, a Northwest crop about the same as last year, with the exception of Idaho, which is very light.

In comparing June condition figures with the final crop figure for last year recognition should be taken of the fact that the June condition figure for a ten-year average is about 15% higher than the ten-year average for November.

Eastern States

NEW YORK—Western New York reports indicate 89% of a crop as compared to 15% final condition figure for 1917. Niagara, Orleans and Monroe Counties report over 90%. Wayne County estimates 89% and Ontario County 80%. Yates and Seneca report 74%. There is an indicated commercial production for western New York of 6,764,000 barrels as compared to a final production of 1,118,000 barrels last year.

Hudson Valley indicates a much lower condition figure than western New York, or 62% as compared to a final condition of 52% last year, or an indicated production of 1,280,000 barrels, as compared to a final production of 1,074,000 last year.

The Champlain district indicates a condition of 77% as compared to 29% final condition last year.

New England

The New England Baldwin belt comprising Maine, New Hampshire and Massachusetts indicates a condition of 62% as compared to a June 1st ten-year average figure of 89% for Maine, 65% for New Hampshire and 85% for Massachusetts. Cold weather severely damaged the Baldwin crop in Maine. Gypsy Moth and light bloom account for low condition figure in New Hampshire. Vermont indicates a condition figure of 66% as compared to a condition figure of 80% on the corresponding date last season, and 32% final condition in 1917.

THE SHENANDOAH-CUMBERLAND DISTRICT, comprising the heavy production counties of Virginia, West Virginia, Maryland and Pennsylvania, and including the territory from Staunton, Va., to Harrisburg, Pa., indicates a condition of 55% or a crop a little better than in 1917. This district in 1917 produced a crop of 1,898,000 barrels with a 52% crop. Berkeley County, W. Va., reports 62% of a crop; Frederick County, Va., 55%; Augusta and Rockingham, Va., 41%; Wash-

ington County, Md., 55%; and southern Pennsylvania, 64%. Bloom was heavy, but did not set. Ben Davis crop is generally heavy, but Yorks set light, while Staymen and Black Twig are from 10% to 30%. Grimes did not set and dropped badly. Old trees of all varieties are showing up better than young.

THE PIEDMONT DISTRICT OF VIRGINIA, including Roanoke section, is estimated at 47% compared to a 57% final condition for the same district last year. Albemarle Pippin are reported light; Winesaps are spotted. Favorable prospects are reported for southwestern Virginia. As in

up much lighter. Conditions in Indiana are much like those of Illinois. Considerable fungus is developing and apples are dropping badly in many orchards. This condition is quite general throughout the Central States, due to frosty, rainy weather during the blooming period.

THE ARKANSAS RIVER VALLEY in Kansas is reported with a good crop.

Western States

A large boxed apple crop is indicated by the conditions prevailing in Western States on June 1st. While conditions are

sonville section early in the season indicated an exceedingly heavy crop, larger even than the two and one-half million box crop of 1917. The season is several weeks late. The Sebastopol section will have a lighter crop than last year on account of the lower condition among winter varieties. Gravensteins are better.

UTAH—The apple crop in Utah is reported in excellent condition, and the crop for this year will be similar in size to that of 1917.

COLORADO promises a good crop, although considerable frost damage. Lower Delta County has about 70% of last year's crop, but State's crop as a whole will probably exceed that of last year.

NEW MEXICO—Indications are for a light crop of commercial apples in all parts of the State, especially in the Farmington district.

MONTANA—Early estimates place this State's production at about 500 cars, most of which will come from the Bitter Roots Valley.

Special Report Early Varieties

The early apple report indicated in the accompanying table is the first of its kind to be issued on early varieties of apples, and with the following comments is designed to be of special value to those interested in the marketing of early apples, by acquainting them with conditions in the competing districts.

There are in United States four large, well defined districts, which produce early apples in large quantities for the commercial market. They are as follows:

Coastal Early Apple District

(New Jersey and the Delaware peninsula.)

Early varieties in this district at present indicate condition of 72% or a production of 121,000 barrels commercial, as compared to a final figure of 101,000 barrels in 1917. Baskets are largely used in shipping. Monmouth County, N. J., which ships many cars of Gravenstein, Red Astrachan, English Codlin and Wealthy to the New York market, shows a 78% condition. Season is two weeks advanced; considerable blight showing up. Burlington County, N. J., reports 81% prospect for early varieties. There is a good crop of Early Ripe. There is some codling moth injury as lack of labor prevented proper spraying in some of the orchards.

DELAWARE shows a condition of 68% and produces about 40% of the early apples in this Coastal district. The district about Wyoming or Kent County indicates 75% of a crop, Transparent and Williams Early Red promising in most cases a full crop. Red Astrachan and Early Ripe are more spotted. Sussex County reports a much lighter crop, indicating 50% condition due partly to storm injury the latter part of April. About Bridgeville Red Astrachan are full, also the older Transparent trees; younger trees have a poor crop. Transparent will begin moving the last of June.

Shenandoah-Cumberland District

This district, including the territory from Staunton, Va., to Chambersburg, Pa., and tributary counties, at present indicates a crop about the same as last year. It has a condition of 55%, or approximately 100,000 barrels of early apples, located principally in Washington County, Md., Berkeley County, W. Va., and Frederick County, Va. Washington County, Md., has a large acreage of early apples about the town of Hancock. The crop here is about 60%. Martinsburg district indicates a light crop. Keyser and Romney sections in West Vir-

State	Condition			State	Condition		
	Early Apples June 1	All Apples June 1	June 10 Yr. Av.		Early Apples June 1	All Apples June 1	June 10 Yr. Av.
Maine.....	66	55	89	North Dakota.....	54	80	76
New Hampshire.....	66	56	85	South Dakota.....	50	50	69
Vermont.....	73	66	87	Kansas.....	55	66	64
Massachusetts.....	78	77	85	Kentucky.....	54	58	63
Rhode Island.....	73	75	83	Tennessee.....	63	62	58
Connecticut.....	77	76	83	Alabama.....	64	80	60
New York.....	79	83	80	Mississippi.....	58
New Jersey.....	76	78	76	Louisiana.....	..	85	..
Pennsylvania.....	70	78	73	Texas.....	28	68	66
Delaware.....	62	71	69	Oklahoma.....	61	68	65
Maryland.....	58	57	69	Arkansas.....	49	58	62
Virginia.....	43	57	62	Montana.....	..	76	88
West Virginia.....	53	60	60	Wyoming.....	..	81	..
North Carolina.....	47	54	64	Colorado.....	..	75	71
South Carolina.....	46	78	65	New Mexico.....	..	60	68
Georgia.....	76	85	64	Arizona.....	..	90	68
Florida.....	Utah.....	..	90	76
Ohio.....	71	69	62	Nevada.....	..	65	58
Indiana.....	57	62	63	Idaho.....	..	52	83
Illinois.....	51	57	59	Washington.....	..	90	90
Michigan.....	80	82	75	Oregon.....	..	70	84
Wisconsin.....	68	85	78	California.....	69	79	82
Minnesota.....	61	66	76	United States.....	..	69.8	68.2
Iowa.....	55	67	65				
Missouri.....	50	60	62				

other sections barrels are very scarce and in most cases more than double the price of last year.

Central States

OHIO—Southern Ohio reports 73% of a crop as compared to about 25% at this time last year. Lawrence County indicates 82% of a crop, Rome Beauty being heavy. Marietta district reports 75% of a crop, while the Gallipolis district reports 55% of a crop.

MICHIGAN is indicated at 82% of a crop as compared to 70% at this time last year and a 25% final figure in 1917. The outlook is for a big crop. Van Buren County indicates 68% of a crop with Baldwin trees damaged in many orchards.

MISSOURI RIVER REGION which includes the intensive production centers of Nebraska, Kansas, Iowa and Missouri, located along the Missouri River, of which St. Joseph is about the center, is estimated at 51% or a production of about 1,100,000 barrels commercial. Cold, windy and rainy weather during blooming period in Missouri River section, and poor set of fruit reduced prospects from blooming time. Doniphan County, Kan., a very important apple county, reports only slightly better than half a crop.

OZARK REGION, including southern Missouri and northwestern Arkansas, indicates a condition of 54% or about the same as the final condition last year for this district or a production of between 600,000 to 700,000 barrels.

ILLINOIS at present indicates a crop about the same in size as last year. Western Illinois in Adams, Pike and Calhoun Counties indicates a good crop, while the large section about Clay and Marion Counties in south central Illinois shows

variable in different States, it now appears that the 1918 apple crop in Colorado and States west will not fall very far short of last year's record production.

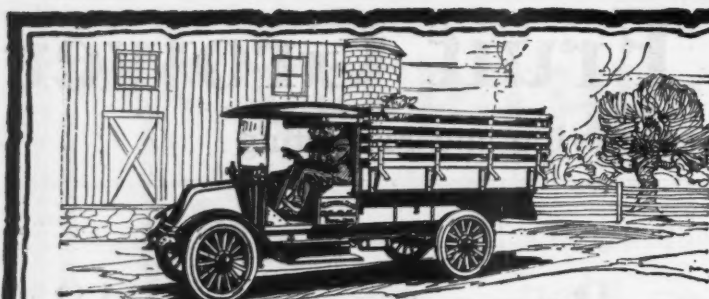
WASHINGTON—This State normally produces over one half of the western boxed apples and has prospects for about the same sized crop as in 1917, the latter being the largest in the history of the State. Wenatchee is reported as having about the same sized crop as last year; or 6,250,000 boxes. Jonathans and Delicious are light. Yakima's crop is variably estimated at from 9,000 to 11,000 cars. Jonathans are reported light for Yakima also.

Early reports from Spokane County indicate a record crop for this district, sufficient to overcome the light production promised in the Walla Walla district.

IDAHO—Last year's production for Idaho is estimated at 3,500 cars, a very great increase over the production of any previous year. Heavy frosts on May 21st reduced the 1918 prospects very materially; in fact, the light crop for Idaho is one of the outstanding factors in the west. It probably will not exceed 20% of a normal commercial production.

OREGON—Estimates for Hood River Valley are placed at from 1,250,000 boxes to 1,500,000 boxes, the latter figure representing the record crop of 1916. Conditions in other parts of Oregon are exceedingly variable; and a light crop is promised in the Rogue River district. The good crop in the Hood River Valley will cause the State production to equal, if not exceed, that of 1917.

CALIFORNIA—Second to Washington in importance among Western States, California's crop of apples for 1918 promises to be a heavy one. Conditions in the Wat-



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ginia indicate about half a crop with orchards very spotted and fruit not setting in many orchards. Yellow Transparent is the principal early commercial variety in the Shenandoah-Cumberland district. Baskets will be largely used for shipping.

Southern Illinois

Southern Illinois with the industry centering in Union and Johnson Counties, is one of the most intensive and specialized areas of early apple production in the United States. The condition in this section is estimated at 60% and the production at 85,000 barrels. Benoni has the best crop, followed by Duchess and Transparent. Commercial shipments will begin the last of June and nearly all the early fruit will move before August 1st. There is considerable hail damage reported from Johnson County. Heavy rains during the blooming season injured the set of fruit. Apple Blotch is developing rapidly over southern Illinois. This district's commercial early crop is comprised of Benoni, Duchess, Transparent, Red June, Maiden Blush, and smaller amounts of Cornell Red Streak, Sops-of-Wine, Chenango, Early Harvest and Red Astrachan.

California

The Sebastopol section in Sonoma County, Cal., is the most highly specialized of any early apple district, although limited in extent. Gravenstein comprise 50% of all apples grown. The production this year is estimated at 600 cars of Gravenstein as compared to 500 cars last year, with considerable young acreage coming into bearing.

In addition to the above districts early apples are produced in a limited and scattered way in the following districts:

Tennessee

Tennessee is estimated at 63% of a crop for early apples. Maury, Lincoln and Williamson Counties, with the tributary districts, it is estimated will ship 65 cars. West Tennessee indicates 15 cars with shipments commencing about June 15th. Yellow Transparent is the principal variety.

Ozarks

The Ozark early apples show a condition of 50%. Late cold weather considerably reduced the crop. The early varieties are

scattered over a wide area and no one section ships a great many. Maiden Blush are grown in considerable quantity.

Ohio Valley

The southern Ohio apple crop is estimated at 73% with a somewhat lower condition in southern Indiana. Yellow Transparent and Duchess are the principal commercial early varieties of this district.

New York

Early apples in western New York are largely Duchess and are indicated at 86%, while the Hudson Valley district is lighter, or 65%. Commercial movement does not begin much until August. Duchess begin to move in quantity during the latter part of August. Niagara County has a very full crop.

Great Lakes District

Michigan and Wisconsin grow considerable Duchess and Wealthy which show a condition of about 80%, but these are late varieties in this region and do not compete with early apple districts.

POTASH IN WOOD ASHES

Wood ashes contain considerable quantities of potash and phosphoric acid, besides magnesia and lime. Ashes from hard woods are richer in both potash and phosphoric acid than the ashes from the softer woods. Store the ashes for fertilizing, as they lose their value when allowed to leach.

TEST FOR ACID SOIL

The simplest test for acid soil is founded on the fact that sour soil will turn the dye in blue litmus paper, red. Make a small opening in moist soil and insert the litmus paper, pressing the earth together again. If in the course of fifteen minutes the paper is removed and shows red spots, it is an indication that the soil is sour and would be benefited by the application of lime. If the soil is dry, moisten it before making the test.

Every day is a fresh beginning. Every morn is a world made new.

Hear biddy singing in the fowl yard. Once again the man with less than \$1,000,000 may have an occasional egg for breakfast.

Drying Fruits and Vegetables

THIS year sugar is scarce, tin cans and glass jars are scarce. An extra supply of fruits and vegetables may be looked for this summer from the 5,000,000 food gardens which have been planted in answer to the call of our government for more food.

Here the simple process of drying comes to the aid of the puzzled housewife. Sugar is saved, tin cans and glass jars are unnecessary, and the food, when properly dried, and later on properly prepared and cooked, is said to have a finer flavor than any canned product. There is great saving of space also, for drying so shrinks the bulk that certain vegetables are reduced from 100 pounds to ten pounds, without loss of food value or flavor.

Three Means of Drying

Three easy means of drying are the sun, the heat of the kitchen stove and the air blast. This latter requires an electric fan. In using artificial heat, the trays of fruit or vegetables may be placed either on top of the cook stove or in the oven. When using the oven the tray should be carefully

a list of manufacturers of canning and drying devices may be had upon request, from the National War Garden Commission, Maryland Bldg., Washington, D. C. This commission will also furnish free single copies of their bulletin, "Home Canning and Drying of Fruits and Vegetables," from which this article is compiled. The bulletin will be found interesting as there are illustrations and information on both canning and drying.

Blanching and Drying

"Blanching is desirable for successful vegetable drying. It gives a more thorough cleansing, removes objectionable odors, softens and loosens the fiber thus allowing quicker and more rapid evaporation." The time required for blanching different vegetables varies, and will be found in the table given at the close. The cold-dip consists of plunging the vegetables into cold water immediately on taking them from the boiling water. It fixes the color and hardens the pulp.

The actual time necessary for drying is not the same for every product. Experi-

Vegetables	Blanching time	Approximate Drying time	Temperature (Fahrenheit)
	Minutes	Hours	Degrees
Asparagus	5 to 10	4 to 8	110 to 140
Beets	Till skin cracks	2 1/2 to 3	110 to 150
Brussels sprouts	6	3 to 3 1/2	110 to 145
Cabbage	10	3	110 to 145
Carrots	6	2 1/2 to 3	110 to 150
Cauliflower	6	3 to 3 1/2	110 to 145
Celery	3	3 to 4	110 to 140
Garden peas	3 to 5	3 to 3 1/2	110 to 145
Green string beans	6 to 10	2 to 3	110 to 145
Kohlrabi, celeriac salsify	6	2 1/2 to 3	110 to 150
Leeks	5	2 1/2 to 3	110 to 140
Lima beans (young)	5 to 10	3 to 3 1/2	110 to 145
Okra	3	2 to 3	110 to 140
Onions	5	2 1/2 to 3	110 to 140
Parsnips	6	2 1/2 to 3	110 to 150
Peppers			110 to 140
Pumpkin	3	3 to 4	110 to 140
Rhubarb	3		110 to 145
Spinach, parsley and other herbs		3	110 to 145
Summer squash	3	3 to 4	110 to 140
Sugar peas	6	3 to 3 1/2	110 to 145
Sweet corn	5 to 10	3 to 4	110 to 145
Swiss chard	3	3 to 4	110 to 140
Tomatoes	To loosen skin		110 to 145
Wax beans	6 to 10	2 to 3	110 to 145
Fruits			
Apples		4 to 6	110 to 150
Apricots		4 to 6	110 to 150
Berries		4 to 5	110 to 140
Cherries		2 to 4	110 to 150
Peaches		4 to 6	110 to 150
Pears		4 to 6	110 to 150
Plums		4 to 6	110 to 150
Quinces		4 to 6	110 to 150

The exact time for drying cannot be given. The time given in the above table is only approximate. Individual judgment must be used.

inserted and the heat then brought up to only a moderate degree. Leave the oven door partly open. No tray made wholly or partly of wood should be used on or in a stove. If suspended over the stove, slatted wooden trays are safe, and galvanized wire trays are satisfactory for use on the stove. The product should, in all cases, be spread thinly and evenly upon the trays. When drying by sun, sheets of plain paper may be used though, when there is a disposition to stickiness, muslin is preferable. Everyone now appreciates the importance of protecting food from dust or contamination by insects. Cover the trays with cheesecloth tacked to a wooden frame that will hold the cloth just above the drying fruits or vegetables, and place the feet of the table or frame that holds the trays, in water, to keep out crawling insects.

The Necessary Outfit

In every home a simple outfit is at hand or can readily be made. Plates and waiters are excellent for drying small quantities, and trays of galvanized wire screen netting of the proper sized mesh, or slatted wooden trays, can be made by almost anyone. Reasonably priced outfits can be bought that will add to the convenience of the operation, and for rural communities an outfit suitable to the needs of the neighborhood, installed at some central place, will greatly reduce the expense, as each household would pay only its due proportion, and every contributing family could avail itself of the community outfit.

For those who wish a detailed description of the more elaborate forms of dryers,

ence will soon teach when drying is finished.

"Vegetables should be rather brittle, but not so dry as to crack or snap, and fruits should be rather leathery and pliable." One test for fruit is to take up a handful and if, when the hand is opened after squeezing, the fruit separates, it is dry enough. Or a single piece may be pressed, and if no moisture comes, the drying is complete. Berries should stick to the hand, but not crush, when squeezed. Do not dry berries too hard.

Preparation of Vegetables

Use only freshly gathered, young and tender vegetables. Remove the skin by blanching preferably, and slice from one quarter to one eighth of an inch thick with a sharp knife, or cut into small pieces. In sun drying the product should be turned over once a day, and never left out in the rain or after the dew begins in the evening. All dried products must be "conditioned" before being stored. This consists in pouring them once a day, for three or four days, from one box to another. If any part then shows moisture, it should be again placed on a tray and subjected to further heat.

After conditioning, the product may be stored, but should occasionally be inspected for insects. On the first appearance of insects, spread it thinly once more on a tray and heat until it is free of insects.

How to Store

A cool, dry place is best for storing. Containers should be small enough for the contents to be promptly used after opening.

Continued on page 8

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ASSOCIATE EDITORS

PAUL C. STARK MARY LEE ADAMS CHARLES A. GREEN
H. R. MANKIN J. E. FORD J. A. BUCHANAN
Business Manager Advertising Manager Western Adv. Manager

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War and the Hereafter

NOT the least surprising development of this surprising and heart-breaking war, is the reawakened interest in the question: "Do the Dead Live?" It was generally supposed that the constant sight of death upon the battlefield would dull the sensibilities of those who became used to it as an ordinary, everyday occurrence. To the fighting man death would appear simply as a negation of life. The foe he slew, and his fallen comrades alike, would seem forever done for. We thought that many a man who went into the war with the faith of a little child, would come out a confirmed unbeliever.

The contrary has proved to be the case, and why should we wonder that they who endure the agony of losing one after another of their dearest, as well as they who face death hour by hour, should more eagerly seek some firm ground upon which to base their hope of a future life wherein loved ones shall be reunited?

No books, not excepting those which deal directly with the material aspect of the thrilling struggle, are so widely read as the many volumes which are being written on this subject. Three are pre-eminently noteworthy on account of the standing of the authors. These are "The Psychology of the Future," by Emile Boirac, translated from the French; "The Reality of Psychic Phenomena," by W. J. Crawford, mechanical engineer, and "The New Revelation," by Conan Doyle, one-time practicing physician.

Approaching by three distinct avenues, held back, in the case of Sir Conan Doyle, by absolute unbelief, these three distinguished men have reached the same goal—that of a settled conviction that the spirit survives the body.

Their books are of intense interest to the whole human race. There will be joy for the Bible student in the fact that science is in accord with the miracles of Christ, as recorded therein. For the skeptic, whose heart bleeds over the loss of loved ones, there may be found balm in this latest dictum of pains-

taking, scientific minds, who have wrought, not in order to persuade themselves into a satisfying belief, but with the sole idea of establishing the truth.

Is the Country Lonely?

IT APPEARS to be a fixed idea with some of our city friends that we must almost perish of loneliness in the country. There are some country homes so remote that there is no reasonable amount of human intercourse to be had, and that is an undesirable place to live for most people. But in the great cities also there are friendless and lonely persons, "alone in a crowd," which is a pinnacle of desolation never reached by the country man.

The majority of orchard homes are within easy reach of good neighbors, and we know for a fact that neighbors count for much more in our lives than the majority of city acquaintances. Given fairly good roads and very moderate means, and it is the fault of the country people themselves if they lack association.

City people, too, seem completely to overlook the sense of kinship with nature that comes to most persons who have lived long in the country. The hills, the fields, the storms, the trees and flowers all play a large part in our happiness. All are beautiful, and ever changing in appearance. Animals on a farm become real friends of both parents and children. The birds are a never ceasing source of joy. It is more entertaining to watch a robin building his nest than to witness a gang of carpenters hammering away on a sky scraper. It is more fun to see that robin seeking food for his young and later training them to be independent than to run into droves of tired business men.

A bachelor friend, who, if he had lived in a city, would never have enjoyed a poetic impulse, said in a tone of pure pleasure, "I like to go to the thicket to salt the calves at sunset. I watch the little fellows, and I smell the honeysuckle, and hear the bobwhites calling. It's lots of company for me." Yes, and it's far better company than might be found at many a street corner or cabaret.

When Work Brings Happiness

FOR EACH individual there is, somewhere in this world, a fitting mate. Often the two cut out for each other never meet, and two lives fail of attaining happiness. Admitting the exceptions to this rule, we may accept the idea that the sum of human joys would be largely increased could the wave of a magician's wand unite those who are best suited to each other.

So with a business career. There are few people who are not adapted to some kind of useful work which they could enjoy. The trouble is the wrong man often has the job. What tough luck for a Trappist monk, with his oath of silence, to realize too late that he is a natural born orator!

Though the magician fails to bring personalities together, it now looks as if he might busy himself with this world of manifold activities. The Binet test, which has long

been used to determine the mental capacity of school children, has paved the way for the wider field of vocational education. By this system it is possible to give mental tests which indicate what the individual is best fitted for. Persons can then be placed in congenial occupations, and former drudgery becomes alive with interest.

Not many prefer to loaf. We honor the patriotism that has led thousands of women of leisure into assuming duties which make heavy demands upon their time and strength, but we believe that they are more contented than ever before. The sense of practical usefulness is exhilarating to those whom we formerly classed as frivolous.

Vocational tests are being extensively applied to our enlisted men, and we trust that great progress will be made along this line. In some such way it may be possible to realize the ideal of everyone in the world gladly doing their share of the world's work.

Spraying Controls Mildew

POWDERY mildew, the most serious fungous disease occurring on apples in the irrigated orchards of the Northwest and sometimes causing considerable damage in semi-arid regions farther east and south, can be controlled by thorough spraying. Lime-sulphur diluted 1 to 50 is the spray to use. This is the recommendation of D. F. Fisher, a specialist in the Office of Fruit Disease Investigations, United States Department of Agriculture, after a three-year field investigation of this disease, especially in the Wenatchee Valley. A serious attack of this mildew often results in a crop reduction the following year of more than 50 per cent, and it also causes a dwarfing and a russetting of the fruit which greatly reduces its market value.

Why Food Prices are High

IN PAST years the farmer often furnished the consumer with food at an actual loss to himself. This through no excess of liberality on his part, but because he failed to include certain facts in his calculations. He did not reckon, for instance, on the great expense he would soon be put to for fertilizers because of the rapid impoverishment of the virgin soil which was giving him easy and abundant crops.

We ask our city friends, when they are inclined to feel peevish with the farmer because they cannot eat as thoughtlessly as formerly, to consider a few facts. The farmer, in common with every one else, is forced by the higher price of practically all necessities, to increase his earnings, in order to maintain anything like his old standards of comfort in living. The report of the food price committee of the Merchants Association of New York City, shows that the farmer must now buy expensive fertilizers where formerly none were needed, that his taxes are higher owing to the higher land values, that transportation costs are greater because of longer distances, that labor is much scarcer and higher, that overhead charges have largely increased.



Threefold Co-operation

Every telephone connection requires co-operation. The slightest inattention or indifference on the part of the person who calls, or the company that makes the connection, or the person who is called results in a corresponding deficiency in service. Each is equally responsible for the success of the service.

Not only is it to the advantage of the individual himself to use the telephone efficiently, but his conservation of the advantages of these national lines of speech benefits all telephone users.

Accuracy in calling, prompt-

ness in answering, clear and deliberate talking, courtesy and patience on the part of both user and operator are essentials of service, and must be mutual for good service.

Efficient telephone operation is vital to the war work of this country. The army, the navy and the myriad industries contributing supplies depend on the telephone. It must be ready for instant and universal use. The millions of telephone users are inseparable parts of the Bell System, and all should patriotically contribute to the success of the service.

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AND ASSOCIATED COMPANIES
One Policy One System Universal Service

—that's what thousands of farmers say, who have gone from the U. S. to settle on homesteads or buy land in Western Canada. Canada's invitation to every industrious worker to settle in Manitoba, Saskatchewan or Alberta is especially attractive. She wants farmers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops to feed the world.

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or other lands at very low prices. Where you can buy good farm land at \$15. to \$30. per acre that will raise 20 to 45 bushels of \$2. wheat to the acre—it's easy to become prosperous. Canadian farmers also grow wonderful crops of Oats, Barley and Flax. Mixed Farming is fully as profitable an industry as grain raising. The excellent grasses, full of nutrition, are the only food required either for beef or dairy purposes. Good schools and churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Can., or to

C. J. Broughton, 112 W. Adams St. Chicago, Ill.	J. M. MacLachlan, 215 Trac. Term'l Bldg. Indianapolis, Ind.	George A. Hall, 123 Second St. Milwaukee, Wis.
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Canadian Government Agent.

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Kindly Mention American Fruit Grower when writing to Advertisers

Tractors Trucks and Engines



Tractorize Your Home

By W. Barret Hankins

THIS is the first talk I have had with you since two issues of the AMERICAN FRUIT GROWER. I am sorry not to have been with you.

I am going to talk with you, this once, on a very important subject—The Tractor—and then next issue I have a very interesting talk about your home. We are at war and there are some very vital subjects on the home to discuss.

The tractor is also vital. The heading of this article may be a bit misleading—"Tractorize Your Home"—but I am taking this means of bringing before you the thought that "home" is not alone a house, but an institution. "Home" is bounded by all that comes within your interest—your orchard and farm, to its extreme fence-line, the crops, your husband's problems, your children at school, your girls with the Red Cross, your boys in the army and navy—that is all "home."

Tractors are going to help win the war; tractors will help solve the labor problem; tractors will aid in putting farming on a basis of greater business efficiency. Talk over, think over this matter of tractors.

I wanted to know just how tractors would vitally interest you, Mrs. Housewife, so I wrote to a number of manufacturers. Here are some of their replies. You will see how a tractor will lessen your duties and help solve your "home problems" generally.

Letter No. 10

It is just this, every machine is supplied with a pulley to which can be attached a belt, and from that belt can be generated electricity to drive anything from a lighting plant to a washing machine. In fact, it will do anything within the limits of its horse power, ranging from 40 to 15. You have the things that interest the housewife at your fingers' tips, and you know how to tell why the tractor is a necessary adjunct. It will assist in milking the cows, fill silos, turn the churn, cut up wood, and pump water from the creek.

Letter No. 11

In the writer's opinion, there are many ways in which the farm-wife would benefit by a power plant on the farm. One reason, that would appeal most powerfully to the housewife, is the fact that it will tend to keep her boys on the farm and at home. Our experience in the sale of tractors is that the boys take to the tractor, and would much rather drive a tractor than to take care of four or five horses. The work is cleaner and makes the boy feel that he is of more importance than a mere hostler. A tractor on the farm is an emblem of progressiveness, and every mother likes to see her son progressive.

The tractor on the farm will lead the farmer to recognize the value of gasoline power and will result in the putting in of other power machines such as small motors for running cream separators, pumping water, etc., much of which work the average farm-wife has had to do by hand.

By the intelligent use of a tractor a farmer will produce more and better crops, do his work in less time, and have more time to spend with his family.

Letter No. 12

Regarding the usefulness of the tractor on the farm with respect to helping the housewife, consider that it has both direct and indirect benefits.

The general purpose tractor has a flexibility of power and speed ranges which makes it a practical machine for economical operation of churns, cream separators, recharging electric light system and other odd jobs, which effect the work of the women.

Likewise, the tractor is reducing the number of farm hands, the number of horses to feed, which has a direct bearing upon the work in the house. The most important thing of all, the tractor from a financial standpoint is a producer and widens the margin of profit on the crop. She is therefore interested and benefited not only from the lightening of the labor but because of the more money that is netted from the work.

Letter No. 13

The best way that the tractor, as a power plant, can be of benefit to the housewife on the farm is to rig up a line shafting from which to operate machinery such as the washing machine, cream separator, churn, milking machine, etc. With a rig of this kind any one of these operations could be performed singly, or two or three of them at the same time.

A tractor could be used economically for purposes of this kind.

Letter No. 14

First—The tractor reduces the number of farm hands required so that there will not be as much cooking, or as many clothes to wash.

Second—The farm work will be done earlier, that is, it will take less time to do the plowing and less days for other field work, so that she will be saved getting up extra early for four o'clock breakfasts.

Third—There will not be so many horses to take care of with the many chores incidental to this, which keep the men folks out late at night, and, therefore, they will get home earlier.

Fourth—If she needs less indoor work and more outdoor exercise, she can learn to run the tractor. As you know many women in England, and the tendency is growing in this country, are called upon to help make up for the deficiency in farm labor, and, with a simplified tractor operated like an automobile, it is entirely practical for a woman to handle it.

Fifth—It will take care of feed grinding, and other similar light power duties, that the farmer sometimes wishes upon his wife.

Sixth—For threshing the tractor is responsible for the increased use of small individual threshers. Instead, then, of having to feed a small army of outside threshermen she will only have to provide for the regular force, with perhaps a few neighbors who come over to help out.

Letter No. 15

The greatest benefit the housewife will receive from the tractor will be indirect. In other words, where a tractor is used on a farm it reduces the hired help, which in turn reduces the amount of work for the housewife. Reports from Michigan farmers show that the farm labor decreases from forty to fifty per cent where a tractor is used, as compared with horses.

If you ask what the benefits of the housewife will be when a tractor is used to run a power plant, meaning electric light, generator, pump for supplying water to the house, churn, separator and other similar machines, will say that it will be greatly to her advantage. A power plant of this kind, whether it is operated by a tractor or by an engine will relieve the housewife of a great deal of hard work.

Write the tractor manufacturers—get their literature. Study this proposition—this is an age when women must help do the thinking.

Address me, W. Barret Hankins, The Nasby Building, Toledo, Ohio, and I will give you a list of tractors.

Enclose 3-cent stamp for reply.

A Few Hints for Tractor Operators

By E. M. Mervine, Associate Professor
Agricultural Engineering, Iowa

Because of the farm labor shortage and because of the advance in price of man and horse labor over that of gasoline, there will be a greater demand for tractors on the farm this year than ever before. In view of the fact, it behooves us to repair and keep in efficient use not only those machines that are now in use, but also those partially disabled.

Repair work on the tractor must be done early, as repair parts this year will be more difficult to obtain, due to congestion of traffic and the inevitable war shortage of materials.

"Cleanliness is next to Godliness," and is very essential in the successful operation of a tractor. Old grease serves merely to collect and hold dust and this mixture of dust and grease is then a grinding agent instead of a lubricant. A few gallons of kerosene will take off all the dirt and grease and make the tractor look like new. When clean, it is much easier to perfect adjustments than when the parts are clogged and hidden from view.

Since most tractors have exposed gears, the question arises as to how these gears can be lubricated and still not collect dirt. Some companies answer this by saying that you should not lubricate the gear where it is exposed to dirt. In this case they depend on hard faced gear teeth and think that a clean, dry gear will wear longer than a dirty one even though the latter is greased. It is possible to use a lubricant on these exposed gears which is so dry that it will not collect dust. Such a mixture is made by moistening equal parts of flake graphite and powdered rosin with gasoline and smearing this on the gear teeth. The gasoline evaporates, leaving the rosin to hold the graphite in place. This, of course, applies only to drive gears.

The lubricating system should be examined to make sure that it is working correctly. Over 90% of tractor troubles are due to improper lubrication. Here again cleanliness is absolutely essential. Unless the machine is in such bad shape that it needs overhauling completely, kerosene poured into the cylinders will soften carbon deposits, cut the gummy oil residue and loosen gummed piston rings. When the cylinders have been drained, the crank case must also be cleaned. Drain the old oil from the crank case and fill it with kerosene. Turn the engine over a few times to clean the case and then drain out the kerosene as before. Carefully examine all bearings to see that they are tight and then refill the crank case with new oil.

See that there is proper clearance between the valve push rods and the valve stems when the engine is turned over. It should equal the thickness of a thin postal card.

Keep a supply of spark plugs on hand, also a few good tools. Good tools, properly cared for, will save a lot of time and money when the spring work begins.

WILL TAKE TRACTOR PAPER

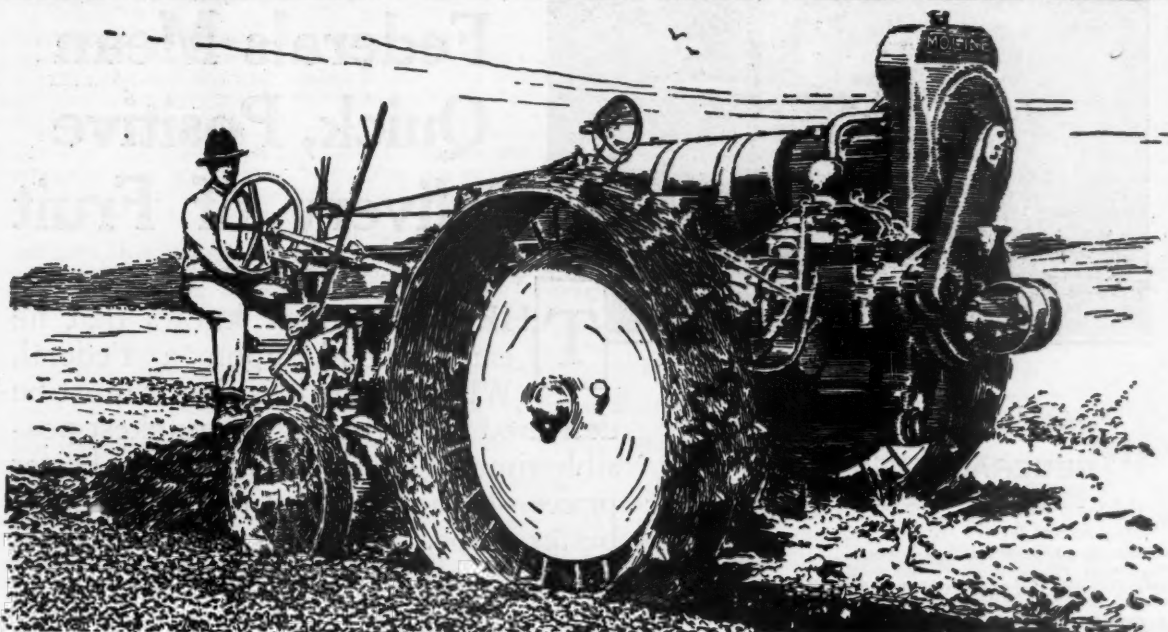
The Federal Reserve Board has advised the agricultural extension service that notes given in the purchase of farm tractors will be eligible for discount at reserve banks. Bankers wrote to the extension service saying that they had taken thousands of dollars' worth of tractor paper in order to stimulate wheat growing, and had been refused discount by federal reserve banks. A ruling has now been made that tractors are to be regarded as farm implements rather than permanent or fixed investments, and that a farmer's note given in payment for a tractor to be used in farming, and maturing within six months, is eligible for rediscount at federal reserve banks as agricultural paper.

FRUIT FOR SOLDIERS

Juicy fruits are in danger of being barred from transportation across the ocean on account of their bulk, but unless these are supplied in sufficient quantities to the men at the front, a serious condition, known as mal nerve nutrition, will result.

Apples, lemons, oranges and onions are the most important nerve foods. A prominent English doctor reports that the effect of lack of such diet is very pronounced among the German troops.

ONE MAN OPERATES BOTH TRACTOR AND IMPLEMENT



More Speed-More Power-More Work

EVERY farmer who sees the new Moline-Universal Model D plowing is astonished at its speed, the splendid quality of work and the ease at which it operates. After seeing the Moline-Universal work, you will realize that the number of plows pulled is less important than the amount of work accomplished.

Great Capacity for Work

Speed, power and light weight are combined in the new Moline-Universal tractor to a remarkable degree. As a result, under any ordinary plowing conditions, the Moline-Universal pulling 2 plows at 3½ m.p.h. will plow 9 acres in a 10-hour day—equal to a 3-plow tractor traveling 2½ m.p.h., the usual tractor speed. Thus the Moline-Universal gives you large capacity for heavy work, ample power for all belt work on the average farm, with these distinct advantages over other tractors—light weight; greater economy and ease of operation; ability to do all farm work, including cultivating, and ONE-MAN control of both tractor and implement

from the seat of the implement, where he must sit in order to do good work.

Does Better Plowing

An advantage of speed plowing is the better quality of the work. With properly shaped moldboards and the Moline-Universal tractor plowing at 3½ m.p.h. the soil is more thoroughly pulverized and compacted than at slower speeds. It is left in such a level and fine condition that furrow marks are hard to distinguish.

Positive Reliability

And keep this in mind always—the Moline-Universal is built for positive reliability. The powerful 4-cylinder, overhead-valve, vibrationless engine delivers full 9 h.p. at drawbar and 18 h.p. on belt; unusually large bearings lubricated under 35 lbs. pressure; Remy electric starting, lighting and ignition system with governor generator; all moving parts completely enclosed; 15 Hyatt roller bearings; 5 adjustable ball thrust bearings; 7 splined shafts; differential lock; heat treated and steel cut

gears—these give "positive reliability," and make the new Moline-Universal the best tractor money can buy.

Self Starter and Electric Lights

Self starter relieves the back breaking strain of cranking, makes tractor operation easy for non-robust help. In fact, many women and boys are successfully running Moline-Universal tractors. The self starter is a feature every operator will appreciate. Electric lights increase the working capacity of the Moline-Universal so that you can use the tractor night and day in the busy season. It gives you an emergency power always available to make up for any unavoidable delays.

Free Tractor Catalog

Your copy of our new tractor catalog which completely describes the Moline-Universal Model D is now ready. A postal will bring it to you, also the name of your nearest dealer. Address Dept. 62.

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Manufacturers of Quality Farm Implements Since 1865.

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has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aeromotors, making them self-oiling. Its enclosed motor keeps out dust and rain. The Splash-Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

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MORE FRUIT

from your trees if you keep them free from San Jose Scale, Aphids, White Fly, etc., by spraying with **GOOD'S CAUSTIC POTASH FISH OIL SOAP No. 3**. Kills all tree pests without injury to tree. Fertilizes soil and aids healthy growth. Our reliable brand on Tree and Plant Diseases. Write today. **JAMES GOOD, 2111-15 E. Sprague Ave., PHILA.**



Federals Mean Quick, Positive Delivery of Fruit

THE fruit grower knows that he can depend upon a Federal. When the fruit is ripe it must be delivered to market in the quickest possible time. Federal service means better prices—because the fruit is delivered in better shape. The low cost of Federal operation also means additional profits.

Throughout the leading fruit belts Federals are daily helping to save the great fruit crops. The San Diego Fruit Company at San Diego, Cal., utilizes Federals in transferring its fruit from the orchards to the refrigerator cars. The Haiku Fruit & Packing Co., at Haiku, Maui, T.H., another user, writes: "Our Federals are giving the best of satisfaction."

Fruit growers choose the Federal because they know what it is doing for other concerns in their own line. They know that it affords a positive, economical and quick means of transferring fruit.

Write for your copy of the monthly "Traffic News." It tells of the experience of other fruit men.

Federal Motor Truck Company
32 Federal St. Detroit, Michigan

FEDERAL

One to Five Ton Capacities

Drying Fruits and Vegetables

Continued from page 4

Label all packages to prevent mistakes in opening. Strong paper bags, tightly closing pasteboard boxes, paraffin boxes, baking powder or other tins with covers, are all good containers. Paste a strip of paper round the edge of the cover of tin vessels. Double over the top of paper bags and tie tightly with string. Old lard cans

are good for placing paper packages in when storing. Protect your containers from mice and insects.

All dried foods require soaking for a long time before their bulk is restored. As a rule one cup of dried food should be put to boil with three or four cups of water. If the product is very dry it may need more water. Always cook in the water that has been used for soaking, and thus no bit of nourishment or flavor is lost. Season carefully and cook as you would the fresh product. For peas, beans, spinach and a few other vegetables of this kind, a teaspoonful of water added to each quart of water, will improve the color.

Time-Table for Blanching and Drying

The following time-table shows blanching time for vegetables and the approximate time required for drying vegetables and fruits, with temperature to be used in drying by artificial heat. Cold-dip after blanching.

BE UP TO DATE

All subscriptions of the AMERICAN FRUIT GROWER are stopped promptly on date of expiration, which is printed on address label of your magazine. Be up to date. Renew for three years for \$1.00; or one year for 50 cents.

A Tour of Virginia

The Virginia State Horticultural Society, co-operating with the extension division of the Virginia Polytechnic Institute, is planning an automobile tour through some of the leading and more accessible fruit districts of Virginia for the week of August 19th. These organizations are hoping to make this an educational, as well as an interesting and enjoyable trip. County farm demonstration agents and leading fruit growers are arranging the details of the tour, such as the orchards; storage and by-products plants to be visited; routes, accommodations, etc., in their respective counties.

The following itinerary is proposed for the week:

Monday—Meet at Charlottesville 9 A. M. Spend day in western portion of county. Dinner at Crozet. Supper and lodging at Staunton.

Tuesday—Forenoon: Fisherville and Waynesboro district. Dinner at Staunton. Afternoon: South and west of Staunton. Supper at Staunton. Lodging at Harrisonburg.

Wednesday—Forenoon: Rockingham County. Dinner at Mt. Jackson. Afternoon: Shenandoah County. Supper and lodging at Winchester.

Thursday—Frederick County, all day. Dinner at Winchester. Supper and lodging at Martinsburg, West Virginia.

Friday—Berkeley County, West Virginia. Dinner at Martinsburg.

A night meeting will probably be held in Harrisonburg or Winchester. Some growers have signified a desire to go from Martinsburg to Adams County, Pennsylvania. Such parties as care to make this trip may make such arrangements en route.

In case you desire to communicate with anyone regarding this trip, such correspondence may be addressed to W. P. Massey, Secretary, Virginia State Horticultural Society, Winchester, or Roy E. Marshall, Horticulturist, Extension Division, Blackburg, Virginia.

A REPLY TO ECONOMIST

Editor of AMERICAN FRUIT GROWER:

I was amused to read the letter published in the May issue of the AMERICAN FRUIT GROWER on "Oleo versus Butter" by Economist, as it showed such a lack of knowledge of the qualities of butter and general knowledge of the dairy industry. Let me say right here I am not interested in the dairy business, but would like to correct a misconception. Anyone who has been following the results of recent investigations knows that butterfat together with eggfat contains so-called vitamins which are necessary to produce growth in the living animal, while oleo does not contain these growth-producing substances. A child might grow normally if fed plenty of milk, but who wants to take any chances with their children; why not give them the most growth-producing foods? One important quality of butter that was not mentioned by Economist is its disease resisting power. Why is it that the use of oleo at Camp Sherman, O., has been prohibited and butter used entirely, surely not because of a lower price. The medical officers are familiar with this last named quality of butter and realize it is far cheaper in the long run.

Economist also advocates the elimination of the manufacture of butter and sell it as milk and cheese. This statement does not sound very good for an economist. Most of the cream that goes into butter making comes from farmers who have anywhere from two to ten cows which are a distinct sideline to their regular business of farming. Does he advocate each one of these farmers to once a day drive with his milk machine with only two or three gallons to the line or station to have it sent to the city? Of it they made it into cheese, we would be so flooded with cheese that a public educational campaign would be necessary to take care of the surplus. Still wouldn't you have you cream left to make butter when you made a good many kinds of cheese. Of course the calves or hogs would get no skim milk as you couldn't make use of the cream. If as Economist says have enough milk to supply all the needs of the child and the adult, this can be brought about paying a price equal to the value of the milk and such that it will encourage milk production. No farmer hesitates to go into a business that there is an opportunity to make a good living, but when a business is as doubtful a proposition as the dairy industry is today there is no increase but, on the contrary, many are quitting the dairy business.

C. H. SPRAGUE, Franklin County, Ohio.

It is suggested that after the war an aerial mail service may be established in the United States. The supply of airplanes is to be drawn from those that survive the flights over the enemy lines.

Common Diseases of the Brambles

By A. S. Colby, Editor of "Diseases of Fruits and Trees" Dept.

TO BE successful, it is imperative that the small fruit grower shall be able to diagnose and control as far as possible the various diseases likely to be found in his plantation. Without any doubt there is big money in small fruit when properly cared for. One important phase of proper care is disease control. This is proven by the failure of many indifferently cared for small fruit plantations through the prevalence of the various common diseases.

It is the purpose of this article to discuss some of the fungous troubles common on the brambles, the important members of which are the blackberry and various species of the raspberry.

Some of the most important fungous diseases which attack small fruits in the above group such as crown gall, orange rust and yellows, have not as yet yielded to treatment by spraying since the disease lives in the host plants from one year to another. This fact makes it difficult to control such diseases. The generally recommended measure, that of pulling out and burning infected plants as soon as seen, is not highly satisfactory since it is hardly possible to make a clean job of the work, and a small amount of diseased material left will be sufficient to start infection anew.

There is a promising field in a study of comparative disease resistance of the small fruits which has not as yet been wholly explored. The writer is at present engaged in such a study and hopes to have something of value on which to report in the future.

Common Diseases

In considering the common diseases of the brambles, it will be noted that while most of the blackberry troubles are found on raspberries, the latter are affected with several diseases peculiar to themselves. Therefore, the troubles common to both brambles, will be first treated, with later consideration of those unique to raspberries.

Anthracoise is a more or less destructive disease wherever the brambles are grown. It affects black raspberries more than the red varieties which in turn suffer more than do blackberries. It is primarily a disease of the canes, although it shows on other parts of the plant.

Anthracoise first appears when the canes are less than a foot high in the spring, infection probably being caused by spores arising from diseased areas on old canes which have wintered over. The spots are elliptical in shape, first purplish in color, but as they increase in size they become grayish white with only the margin purplish. The spot being somewhat raised shows clearly the separations between the healthy and diseased tissue. As the disease advances, the spots lengthen, sometimes running together and girdling the cane, the affected areas presenting a rough, scabby appearance often with the bark split.

As a result of such an infection, the canes become sickly, the leaves are dwarfed and the fruit, if formed at all, is of no value. Secondary infections on the canes, leaves and fruits continue all summer, the fungus becoming dormant in the old canes as cold weather approaches.

CONTROL: (1) Cut out and burn all diseased canes at once after leaves fall. Most black raspberries are so susceptible that a plantation must be reset every three years. (2) Plant more resistant varieties, such as the Gregg black raspberry. (3) Avoid setting stocks from diseased plantings.

(4) Spraying may help in keeping a plantation relatively free from anthracoise by applications of Bordeaux (4-4-50) as follows: (1) Before the leaves appear. (2) When the leaves are well developed and by the time the shoots are six inches high. (3) Just before the blossoms appear. Later sprayings may be needed if the weather is moist. Clean cultivation is said to be of value in preventing a rank growth of weeds which increase the relative humidity about the canes.

Crown Gall

While crown gall occurs on a very great variety of plants including the larger fruits, it is more generally destructive to the brambles, especially the red raspberry.

The galls produced are caused by the presence of certain bacteria which, instead of killing the plant outright, weaken it by stimulating certain cells to excessive multiplication.

The bacteria probably live in the soil and may enter the root through wounds, especially from the nursery row. The galls on the blackberry are quite commonly found on the stem above the ground, while on the raspberry, they seem to be smaller and more often underground.

CONTROL: Because of the great number of susceptible plants, it may be assumed that the crown gall organisms are present in the soil of most fruit plantations. It is well, however, to exercise the following precautions where possible: (1) Reject diseased nursery stock. (2) Remove diseased plants at once upon their appearance and burn them. It goes without saying that spraying is ineffective.

Orange Rust

Orange rust, red rust, or spring rust is a well known, wide spread disease of brambles. It appears early in spring on the under surface of the leaves of the blackberry and raspberry, both wild and cultivated forms.

The infected leaves are somewhat dwarfed, slightly curled, exposing the orange colored patches covering their lower surfaces. Of no further use to the plant, the leaves fall. Diseased plants are commonly stunted but not killed at once. The fungus mycelium lives in the affected plant from year to year, dormant in winter in the canes and roots. It grows with the growing tip of the young plant in spring, until the leaves appear, when the disease comes out on the leaf surfaces as above described.

CONTROL: Because of the fact that the orange rust is perennial in the canes, it is exceedingly hard to control the disease. Dig out and burn infected plants in the cultivated patch as well as hunt for and destroy the disease on the wild plants. It may be that some varieties of blackberries, for example, are more resistant than others. The Eldorado is reported as quite resistant while the Snyder is noticeably affected in Illinois.

Two diseases affecting raspberries and seldom found on blackberries, are cane blight and yellows.

Cane Blight

This disease is of general occurrence in the northern states. While it is not so serious as to mean the loss of a whole crop, few plantations are entirely free from it. The fruiting canes are most commonly injured, suddenly wilting and dying. The life history of the fungus is as follows:

Wintering over in dead and decaying canes, the spores are carried to the young canes in early spring. There they may enter the unbroken epidermis or through wounds such as made in heading back or by insect injuries, such as tree crickets make. The wounds commonly extend downward with the diseased area appearing brown and the cane becoming brittle. Soon, small black fruiting bodies appear on the diseased areas from which masses of spores ooze out on the bark. These spores are carried to other plants by insects, wind and rain, tools, etc., inducing new infections throughout the growing season. With the approach of winter, the fungus becomes dormant in the old canes.

CONTROL: (1) Remove and burn all old and diseased canes at once after the fruiting season. (2) Do not accept plants from nurseries where cane blight is serious. (3) Do not replant on soil for a period of several years where a diseased plantation formerly existed. Spraying is at present unpromising as a control measure. There is a wide difference reported in varietal resistance, the Cuthbert probably suffering the most while the Columbian is noticeably resistant.

Yellows

This is a wide spread but somewhat obscure disease of the raspberry, the cause of which is unknown. The term has been loosely used to designate any one of several conditions where the leaves turn yellow.

The disease, however, differs in its appearance from cane blight or other troubles with which the yellows is sometimes confused. The leaves do not wither up and

the disease does not appear until at least two years after planting.

The plants appear stunted and sickly. The fruit bearing laterals are dwarfed, the leaves are abnormally small, and somewhat curled, turning through several shades from green to yellow. The berries are of no value, ripening prematurely or not at all.

CONTROL: Since the cause is unknown, control methods may only be suggested. (1) Destroy diseased plants. (2) Accept plants only from nurseries free from the yellows. (3) Select varieties which have shown resistance. Red raspberries seem to be more susceptible than do black varieties. However, the St. Regis (ever-bearing red raspberry) is said to be quite resistant.

The dewberry is affected with diseases similar to those mentioned on the other brambles. Double blossom, however, is more common on the dewberry and should be treated here.

The disease makes its appearance in the spring, being noted by the enlargement of the diseased buds. The casual agent is a fungus which is perennial in the vine and involves the buds, causing the appearance of distorted flowers. If fruit results, it is of no value.

Double blossom usually does not appear till the second harvest season, increasing in intensity until the entire plant is killed.

CONTROL: The most feasible method seems to be hand-picking and burning of the diseased buds as they begin to open. If done early in the season, it is quite effective. The most susceptible variety seems to be the commonly planted Loretta.

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Poultry for Profit



Advice to Poultry Raisers

By C. A. Langston, Editor "Poultry for Profit" Dept.

For the beginner in the breeding of poultry, the sharp demand for eggs for hatching in late June and early July is a surprising feature of the business. The hasty conclusion is that such a demand comes from inexperienced poultry keepers who do not understand the value of seasonal hatching for winter layers. The fact is, however, that many of these June orders come from poultry keepers who have found out that the later hatched pullets will commence to lay with the May hatched and that by postponing their hatching to June and July they get eggs at reduced prices and save six weeks of feeding.

Time to Cull

Broilers and friers are now in strong demand at good prices and now is the time to take out the unpromising ones and prepare them for market. They should be confined in a slatted coop, given a fattening mash, milk, water, and plenty of grit. The gain of a half pound is worth twenty cents, but it will not cost five cents. If the poultry keeper does not take this additional profit by feeding for market, some smart city chap will buy up his consignments and take the feeding profit for himself.

The direct profit of poultry keeping derived from fitting young stock for market is only an item of profit from general poultry keeping which is partly insured by intelligent culling. Unless a careful watch is kept of the various hatches, the runs of an older hatch will be taken for the precocious ones of a younger hatch and in this way these runs will be carried into the laying house. The safest plan is to obtain a supply of leg bands and mark the ones that are to be kept. Some of these will have to come out later, but they can be used to advantage on the home table.

Look ahead to the cold days of next December and January when the egg yield will be from zero to 25 per cent and the cost of feed will be 300 per cent higher than it was three years ago. Those pullets will require six pounds of feed monthly and this may easily amount to 25 cents per month.

Current Prices for Eggs

Something is wrong with consumption or distribution. Eggs are down at the gathering points ten cents below the wholesale quotations of near-by cities. As one can hear various rumors about storage space and governmental orders there is ground for suspecting secret operations.

Preserve Low-Priced Eggs

The only protection for the small producer who has to sell at the country stores is to put down these cheap eggs in water glass. As this method is absolutely dependable there is no risk. These eggs will supply home requirements next fall when fresh eggs are commanding high prices.

Swatting the Rooster

This is the season for the annual campaign against the rooster. The general rule is to dispose of roosters in early summer. The resulting infertile eggs will keep better and the feed bill is reduced by so much.

The markets take roosters at lower prices than those quoted for hens although the city poultry stalls seldom have dressed roosters for sale—they are the large hens boarding house mistresses require for Sunday dinners. Why should poultry keepers sell roosters at 15 cents a pound which are sold in the stall as hens at 35 cents a pound? Because poultry keepers sell them for what is offered. The economical country home will keep these roosters for the home table. Confine and feed for a week or ten days and the meat will be as tender as hen meat.

The best breeding experience is positive that roosters, not cockerels, should be used with pullets. The careful poultry keeper will carry the good cockerels of this season over for the next breeding season. But only the best should be kept. As some still believe that hens must have the roosters to make them lay it is permissible to state that hens generally lay better without the roosters. All the records of the egg-laying contests are made under roosterless conditions.

Midsummer Feeding

The factors of profitable poultry keeping breeding, housing, and feeding. The seasonal factor is therefore feeding. There is need of the constant reminder that only the favored few have natural forage for growing stock. Many are not among this favored few who think they are. In addition to grain and mill feed the young stock should have meat scrap, and oyster shell will help much. The reason for these points on feeding is the grave danger to the future laying flock of unintended neglect. The bad showing of the flock next winter will be attributed to various causes, but the one cause may be the midsummer neglect. The young stock must come to full size and laying maturity in six months and it cannot do these things without the proper feeds.

THE FEED PANIC

The high cost of poultry feeds has halted many poultry keepers. Some going out of the business and many are curtailing their operations. The high cost of feeds is the reason commonly given. But the cost of feed is only a relative matter. If the selling price of eggs is high the poultry keeper can stand the high cost of feed if he has the right kind of flock and gives it intelligent care. The fault of many is that they cut down the feed below egg production just because the feed is costly, forgetting that the costliest feed is the ration consumed by non-producing hens and pullets. With eggs at sixty cents one can afford to feed the best. If a hen is constitutionally non-layer, and a properly balanced ration should prove or disprove this in a short time, she should be sold to market at once. But reasonable people will first make sure that the non-laying is not due to any fault of feeding and housing. If the early hatched pullets do not commence laying in late fall, take the blame upon yourself until you have proved that the fault is in the pullets. Do exactly what your experiment station advises and you will probably go "over the top" in the poultry business.

LEARNING AS YOU GO

The hatching and rearing season is now old enough for review. Have you learned anything new about chicken raising or have your successes established confidence in certain things you half doubted? Does it pay to fool with puny chicks? You have doctored some this season. Did they get well, and if they did, do you not wish they had died?

Those who employ artificial brooding are specially exposed to surprises. One breeder took a great deal of trouble to arrange a building for a colony brooder. The chicken space was five times larger than is commonly allowed and the colony brooder did its duty. But the chicks insisted upon dying. What was the matter? Was the fault in the breeders, was it in the feeding, or was it in the incubator? Maybe it was a combination. But this poultry keeper has an idea that chicks cannot thrive in dry brooder houses. And so he has plans for next year. We hope the readers of these columns may have the benefit of his coming experiment.



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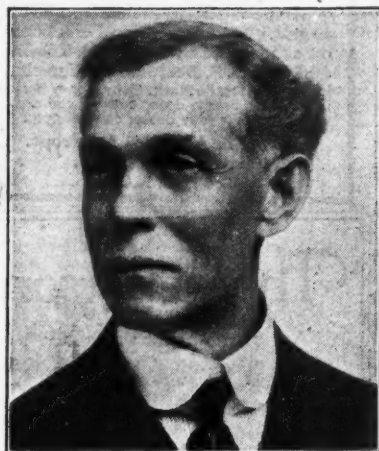
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Big Fruit Exhibition

The Iowa State Horticultural Society has just issued its announcement of premiums aggregating \$2,500 offered at the Midwest Horticultural Exposition to be held in Des Moines at the Coliseum, Nov. 5, 6, 7 and 8, 1918.

This exposition is a continuation on a vastly larger scale of the apple show that has been held annually at the state house for a number of years under the auspices of the horticultural society. It will be an exhibition of all kinds of fruits and vegetables grown in the middle west, and will



Prof. S. A. Beach of Ames
President Iowa State Agricultural Society

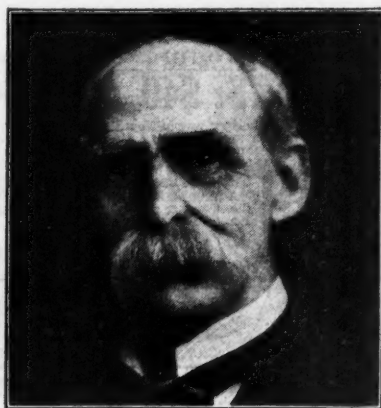
also include various forms of demonstration of methods in the raising of these products as well as in the care and preservation of the products themselves.

In view of the fact that the country is at war, making necessary the conservation of resources, one of the things to be particularly emphasized at this exposition is the conservation of food products.

Must Not Use Sugar

Canned, pickled and desiccated vegetables will be shown, including evaporated sweet corn, squash, pumpkin and carrots, and pickled cucumbers, tomatoes, beets and other vegetables.

Carrying out the idea of conservation, one of the conditions in connection with the exhibits of canned fruits, preserves and jellies is that these must be put up without the use of cane sugar. Glucose, corn sugar, honey, sorghum, fruit sugars and fruit syrups may be used. Premiums to the amount of \$250 are offered in the department of preserved fruits and vegetables.



Wesley Greene
Secretary Iowa State Horticultural Society

One of the interesting exhibits at the show will be a display of edible nuts, premiums being offered for black and white walnuts, shellbark hickory nuts, chestnuts, pecans and hazelnuts. A first premium of \$15 is offered for the best collection of nuts, and \$10 as a second premium.

Apple Prizes Numerous

Inasmuch as the apple is the principal fruit grown in Iowa, it will occupy the chief department among fruits. Eight classes are open to exhibitors, arrangements having been made for sixty-three exhibits in all. These classes include the principal commercial varieties, prizes being offered for the best exhibits in barrels, boxes, trays and plates.

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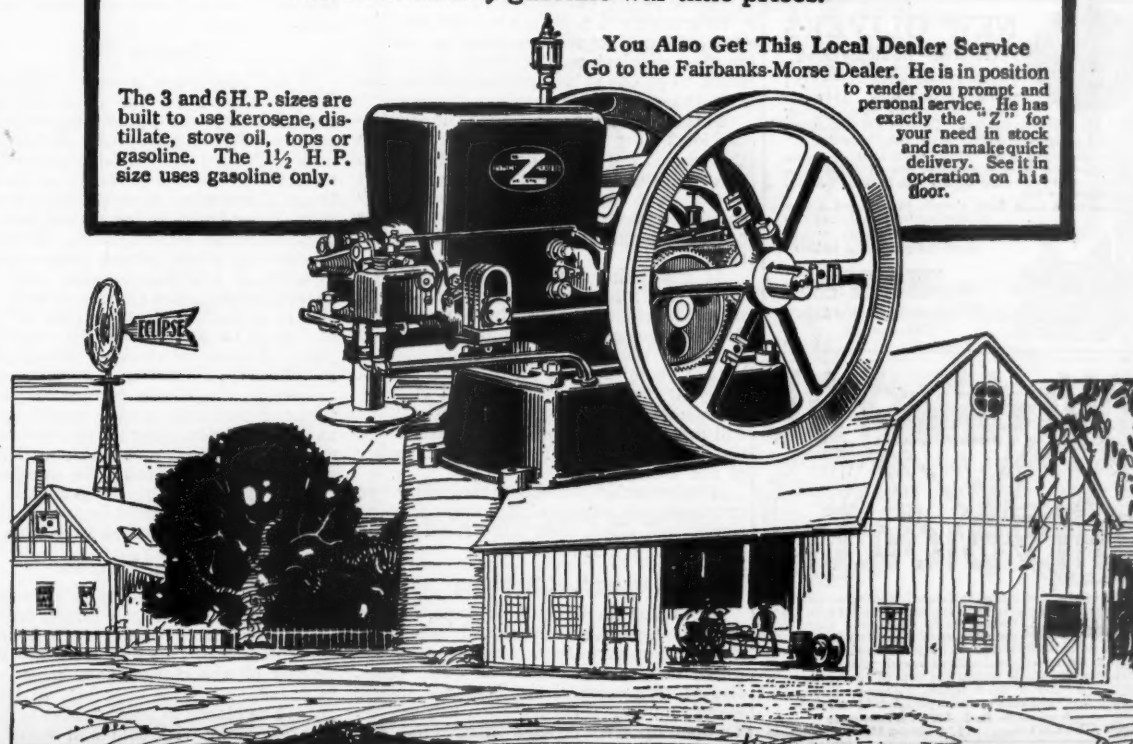
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\$513 Offered for Flowers

Potatoes, sweet potatoes, onions, beans, cabbage, squash, pumpkin and a host of other vegetables of numerous varieties all are given an opportunity to display themselves at this exposition and draw a prize.

An elaborate program has been worked out for the display of flowers, the premiums offered in this department aggregating \$513. In view of the fact that this show comes late in the season, the largest display will be that of chrysanthemums, nearly a third of the prizes offered in the thirty classes designated going to that flower.

The boys and girls are not forgotten at this great show of horticultural products. Arrangements have been made for a full line of exhibits from juvenile citizens of the state, including canned products, consisting of both fruits and vegetables.

There will also be a demonstration of junior team club work, in gardening, cold-pack canning, drying food products, home

method of making sugar, beet sugar and other work of a similar nature. Provision has been made for the midwest horticultural exposition to pay the round trip railroad fares of four junior club demonstration teams who will give these demonstrations during the exposition in the exposition building.

THE BERRY PATCH

Mrs. Frank Barrett, New York

I wonder that every farmer doesn't set out at least enough berries for the home garden, if he doesn't care to raise enough for market. We are very fond of small fruits and have a few blackcaps, blackberries and raspberries.

Our little blackberry patch brought us \$100 last year. There were about 400 plants set, and last year was the second year they bore.

Bend Down Bushes in Winter

The past winter was very severe here, but the berries wintered well and showed very plainly that it pays to bend the bushes down in the fall, and throw a shovelful of earth on the tips, to hold them down. Every bush that escaped such treatment was as "dead as a doornail," and our patch is protected on three sides by a wood lot.

It took a man and small boy four days to put the bushes down last fall, and about half a day this spring to loosen them all with a potato hook.

Last, but not least, this crop can be marketed mostly from the buggy-wagon, and wife and baby enjoyed a ride with each load. We live back in the country and have yet to find trouble in securing good pickers.

CUTWORMS ON A PEAR TREE

By F. G. Roth, New York

Two summers ago I had the experience to find the young shoots of a low, top-worked pear tree continuously gnawed off without being able to surprise the male-factors on the spot. Finally one day I scratched some soil away at the base of the trunk and there found scattered within the radius of two feet over two dozen cutworms.

To make sure of their extermination I prepared a bait by mixing some bran with arsenic of lead, moistening it with water and by adding a few drops of molasses. This I spread in little balls around the base of the trunk, and forthwith the young shoots from the grafts could grow undisturbed by the nightly raiders.

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Bee Keeping for Profit



The Danger of Robbing; Increase for Next Year

By E. Root, Editor of "Gleanings in Bee Culture."

DURING this month the honey-flow of May and June may continue; but since the season is unusually early the honey-flow will, in all probability, be over if the fruit-grower is located south of the Great Lakes and north of the Ohio River. In southern Wisconsin, Michigan, Ontario, and New York the flow may last until the middle of the month.

Swarming will probably be over, and the bees will not require watching as closely as they did last month, when they were liable to go out at any moment during the middle hours of the day.

In the May issue I described the apparatus for taking the honey off the hive; so this time it will not be necessary to go into those details any further than to say that if the bees are crowded for room they should be given an upper story or a super containing combs or full sheets of foundation.

At this point the beginner should not make the mistake of giving too much room, for in all probability the honey-flow is tapering off, if it has not actually stopped. When empty combs are inserted between combs partly filled at this time of the year, more harm than good is done, oftentimes, because combs partly filled will not have any more honey added, and the increased room retards the ripening of the honey.

If an examination shows that the hives or supers are heavy with honey, and the combs well filled, then more room should be given, but not otherwise.

Danger of Robbing

As soon as the honey-flow stops, and for several days thereafter, and especially if the bees have been working on basswood, they are liable to be quite cross. During this interval the beginner should avoid handling them as much as possible. To open up hives at such times is liable to start robbing, and "robbing" is a technical term used in bee culture, referring to the habit of bees to steal from each other when the honey-flow stops. Bees have no regard for the rights of others; and when there is no opportunity of getting more sweets from the fields they watch their chances and steal from each other or from a building where honey or syrup is exposed. If the owner of the bees leaves any pieces of honey scattered around, or leaves the hive open, they pounce upon the exposed sweets with relentless fury. If perchance Mr. Beekeeper leaves the honey-house door open where he has his surplus honey the bees will rush in pell-mell like a dozen swarms, help themselves, and then when the door is closed those outside will sting everything in sight. The beginner should be particular about exposing sweets of any sort, as it is liable to lead not only to trouble among the bees, but to serious trouble among the neighbors of the human family. During the canning season the housewife will sometimes leave the screen doors open. The smell of the sweets invites the bees; and before she knows it the bees will be doing a land-office business. If she owns no bees, and her neighbor does, she will make a vigorous complaint. If, however, the bees are her own, she may make the best of it, but conclude never to keep bees again. When bees get on a rampage they may sting even dumb animals as well as human beings.

Just a little precaution will avert all this. All that is necessary is to keep all sources of sweets closed up. Honey-cans, honey-bottles, barrels, or tanks should be covered, so that if the honey-house door is left open by mistake there will be nothing the bees can get at. All combs of honey

should be put in supers or hive-bodies stacked up on the honey-house floor. The top super should have a regular hive-cover fitting tightly.

Whatever manipulation is performed with the bees when no honey is coming in should be done as speedily as possible; and during the time the hive is open the combs should not be exposed more than is necessary.

Feeding Bees

If the honey-flow in your locality was a failure—that is, if the bees did not get enough honey to support them—they may require a little sugar syrup. Whether bees need to be fed can be determined by the weight of the hive and also by an examination of the combs. If very little honey is in sight, bees should be fed a little daily until their combs are well supplied. To do this a mixture of about equal proportions by volume of granulated sugar and water should be used, first stirring it well. Place this in a shallow tin pan, then cover the surface of the syrup with wet cheesecloth. This is to prevent the bees from drowning in the syrup. This pan of syrup should be placed on top of the frames in an extra super or hive-body, and it should be given at night. Before opening up the hives use smoke at the entrance and over the tops of the frames; for during the late hours of the day bees are apt to be a little cross, and more smoke should be used. Frames should not be handled at such times.

Making Increase

Bees are very expensive this season, and hard to get. It may, therefore, be desirable to increase the number of colonies. If the colonies in two and three-story hives occupy all the stories, they may be split in halves. A little over half of the bees should be placed in another hive in another location along with combs of sealed brood—preferably brood ready to hatch. All the unsealed brood and the rest of the bees with the queen should be left on the old location. The old flying bees will return to the old stand. The new hive should be given an untested Italian queen, which can usually be had this month for about \$1.00 or \$1.25. These queens should be in readiness before the division is made.

The beginner should not divide his colonies unless they are very strong; and he should not make more than one division. A novice hearing what some experts have done by making ten colonies from one will often make the mistake of dividing his colonies up into five nuclei, expecting, by feeding, to build them up to full colonies by fall. If he makes the attempt he will probably fail and lose them all in early winter.

If half of the colony on the new location when the division was made is weaker than the parent colony on the old location, after two weeks it will be well to take from the last named a frame of sealed brood and give it to the new colony. Both colonies should have plenty of stores; and if short they should be fed as already directed, and both should be of as nearly equal strength as possible by fall. During the first two weeks the half of the colony moved to the new location will be somewhat weaker than the old one; but its hatching brood will soon enable it to catch up.

WHAT IS WEALTH?

One definition is: More money that we have, all that we hope for. So seldom attained that it is well the average man can console himself with the thought that it might not be good for him.

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Livestock and Dairy



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A breeder recently remarked that his heifer calves were as profitable as the bull calves. He found this out by keeping a few and breeding them. At calving time neighbors were taking them at fair prices. He now keeps all promising females and has a demand for all he can raise.

As this demand for fresh heifers came from country and village homes he is inclined to believe this trade might be extended indefinitely. One explanation for a revival of interest in the family cow is that people are coming to appreciate the food value of milk. Where milk and milk products are used freely, the family cow will provide one third of the living at a cost of ten dollars a month and some trouble.

Selling Pigs to Negroes

The colored people of the southern belt have a reputation for thriftlessness which they do not wholly deserve. The practice of keeping two or three pigs shows that they do plan to make both ends meet. A progressive young farmer discovered that it was profitable to encourage this practice. He drove into the negro district of a certain village with twenty-two pigs in his wagon and drove out with one hundred and twenty-four dollars in his pocket. The residents were pleased to have the pigs brought to their doors and they now count on this young farmer for their supply of pigs. It took less time to deliver the lot than would have been required to deliver the lot in pairs to casual buyers coming to his place.

Sheep Keeping for Wool

In other days the clip was considered a by-product or incident of sheep raising. Now the clip brings as much as the carcass brought a few years ago. The government has named a price of 75 cents for clean wool. Almost coincident with the an-

nouncement of price was the announcement of a decline of several million of head during the last year. This decline is due chiefly to the depredation of dogs. One benefit of the wool crisis is the rising opposition to unregulated dog nuisance. There are millions of unused lands which would maintain millions of sheep, but farmers are afraid to venture into sheep raising on account of dogs.

But sentiment is changing and farmers may look forward to the time when the sheep industry will be made more secure.

Weed Season and Sheepless Fields

This is the season of weeds. They appear everywhere and they thrive everywhere. The nation spends annually many days with mower and back-breaking blade and bush hook fighting this annual growth. In many sections of the country only annual crops may be relied on. Grass and clover are overrun in a single season and the annual crops require more labor on account of the spread of weeds and bushes. The labor shortage makes it impossible for farmers to cope with so many enemies. A few sheep on the place would be equal to a hired man. They would keep down the bushes which will have to be grubbed out next winter and clean up the fences which should be mowed in August. In addition to doing the work of a hired man, they would earn the profit of a hired man.

Feed Outlook

Livestock farmers and dairymen have some ground for believing that the feed situation will be improved by the next harvest. The forecast for a bumper small grain yield and the policy of the government of grinding most of the grains in our own mills are tokens of a more bountiful supply of grain by-products for stock. Even though the price is not reduced there will be some comfort in thought of being able to get feed when feed is wanted.

It Pays to Thin Apples

By F. G. Roth, New York

In these uncertain times, when everyone is confronted with the perplexing question how to economize and yet not impair the efficiency of business, it is important for the fruit grower also to tackle the problem of saving, and especially to avoid unnecessary work in the seasons of greatest labor shortage. Will it pay him to thin his apple trees?

The Northwest has found out that thinning in those regions was a necessity. Not only would the trees overbear, break down under the load and be weakened for the next season, but it did not pay the growers to handle a large quantity of second quality fruit.

Expenses for harvesting, packing and hauling, the price of the packing material and the cost of shipping are the same irrespective of the percentage of high or low class fruit. Whereas in well-cared-for orchards (that is well-pruned, well-sprayed and thinned) a percentage of 75% to 90% fancy fruit is no rarity, in unthinned orchards it sinks down to only 25% on account of smaller size, less color and the large quantity of defective fruit.

Different Conditions in East

Conditions in the East are different. The trees are less apt to overbear, the handling and packing expenses are lower, and the vicinity to the markets allows good returns even for lower quality fruit. Yet my personal experience convinces me of the advantages of a moderate thinning. Since the months of June, July and August do not tax the fruit grower to the utmost, it is well for him to look over his trees then and to relieve some of the pressure from the fall work. Help will be scarce at harvesting time, and all the unnecessary picking and sorting, avoided by timely thinning, means just so much profit. Naturally I would not advise to copy

the thorough methods of the Northwest, but there is no reason for leaving the big clusters of deformed apples caused by the rosy aphid, the bunches of undersized fruit beneath the lower branches, or defective apples, the work of cankerworms, codling moths and other caterpillars.

These draw upon the resources of the tree and double the cost of harvesting and sorting. A trained eye will soon detect the inferior fruit, and with a light and handy outfit it will not take very much time to go over the orchard. Thus a little forethought in time will help considerably to solve the labor problem of the fall.

HOW FRUITS ARE MULTIPLIED

It is both profitable and interesting to note how various fruits are multiplied. Some by cuttings, some by budding, grafting layers, suckers, or sprouts. Sometimes two or more of these methods may be employed in any particular case, but the methods generally employed are those experience has taught us to be the best adapted:

Barberry—Multiplied by cuttings of mature wood and by seeds.

Figs—By cuttings, either of soft or mature wood.

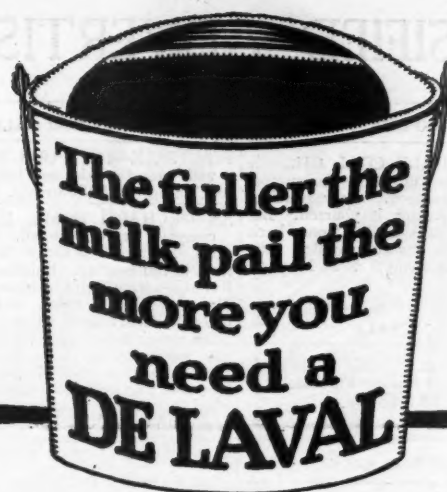
Bulberry—Cuttings of mature wood. Some varieties are root-grafted and some are budded.

Olive—Cuttings of mature or even old wood. Chips from the trunks of old trees are sometimes used.

Pomegranate—Cuttings, layers and seeds.

Apple and Pear—Seed, seedlings, budded or grafted.

Peach and Other Stone Fruits—Seeds; seedlings budded. Peach trees are sold at one year from the bud, but other stone fruit trees are planted when 2 or 3 years old.



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BIGGER CROPS—PLEASANTER CLIMATE—are enjoyed by farmers in Eastern Washington, Northern Idaho and Western Montana. The same work will bring you more per acre than in the Middle West—no extreme heat or cold to injure crops and take a lot of joy out of life. Attractive opportunities here for the farmer, dairyman, stockman, poultryman, and market gardener looking for land at reasonable prices. Farm land bought now is bound to increase in value. Write for our free folder, "A Farm Home For You." Tell us the kind of place you want. Farm Development Bureau, 608 Chamber of Commerce Building, Spokane, Washington.

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FOR SALE—160 FOUR-BASKET CRATES with baskets. Also new light-draft orchard harrow, cheap. M. Vordriede, Knobview, Mo.

AN ORCHARD HOME, UP-TO-DATE AND complete in every detail. Ideally located 110 acres. Heart of Blue Ridge. 2,500 apple and peach trees in full bearing. Buildings new and modern. Running spring water to house, barn and orchard. Main dwelling, 5 rooms and bath; three other houses. Barn, implement and packing sheds, complete equipment of stock, implements, etc. Will pay splendidly on investment. An ideal self-supporting year around home or a summer home that will pay for itself. Price \$15,000. Address Virginia, Care AMERICAN FRUIT GROWER, 329 Plymouth Court, Chicago.

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We urge our subscribers to take advantage of our classified advertising department. If you have something to sell or wish to purchase something, want a position, or help for your orchard, place a small advertisement in our classified department and your message will reach more than 175,000 subscribers, which is sure to bring the desired results at a small cost to you of only 15 cents a word.

Some Fruit Facts From Australia

From Fruit World, Melbourne, Australia, Cold Storage Experiments

A committee has been appointed to conduct experiments in the preservation of fruits at the government cool stores at Victoria Dock. Not only will all conditions of climate, soil, age of tree, and maturity of fruit when picked, be taken into consideration, but three different systems of refrigeration are to be tried, namely, the "dry air process," which is exclusively used in the new fruit stores; the direct expansion system, with the cooling pipes in the chamber itself; and a combination of the above two methods.

Requirements of the fruit after leaving storage will also be studied in an effort to prevent the rapid deterioration that often takes place.

Few branches of fruit growing hold out better prospects than prune growing in Australia. The state is, both as to soil and climate, perfectly adapted to the growing and drying of prunes. It is therefore surprising that more has not been done along this line.

Anthracnose Reappears

Australia is, as a rule, free from serious infestations of fungoid diseases, but vineyardists are now disturbed by a reappearance of anthracnose. The standard remedy is made with 35 pounds sulphate of iron, 3 to 5 pounds sulphuric acid, and 10 gallons of water. This is applied with a brush or swab free from metal bindings. A lead-lined knapsack spray pump has been devised to resist the acid.

Shortage of Nursery Stock

Fruit growers who, a few years ago, were worrying about an outlet for the fruit that bid fair to glut the markets in the near future, are now puzzled as to how they will be able to secure nursery stock dur-

ing the war and for a period following. The supply from France, upon which both Canada and the United States drew, is greatly depleted, and in Canada many young orchards are dying of neglect owing to the fact that those who expected to cultivate them are with the colors.

Tons of Dried Apples

Eighteen hundred tons of evaporated apples have been sold by Australia to the Imperial Government. They will be shipped from March to August at the rate of 300 tons per month.

Organization in Tasmania

In Tasmania an effort is being made to organize the apple growers for mutual benefit. Mr. Rundle, the appointed organizer, tells his hearers that production has received attention to the neglect of marketing, which has resulted in glutted markets, low prices, and absolute dependence upon the middleman, who exploits the growers. He recommends: First, an honest pack; second, cold storage plants which will enable the growers to hold the fruit for favorable markets; third, local associations for building up a reputation for dependable packs; fourth, vigorous salesman and advertising campaigns, in order to push Tasmanian apples.

South African Fruit Notes

From the South African Fruit Grower, Johannesburg African Pine Plantations.

Great and increasing quantities of oranges and pineapples are being grown in South Africa. An interesting peculiarity of the pines is that they have the capacity to draw much more water than is needed for their own use. If orange trees are interplanted with the pineapples they derive great benefit from the surplus moisture attracted by their "wet nurse." Pines are shipped loose in railroad trucks. It is cheaper, and the fruit travels better than when packed.

Parahails Protect Fruit

That parahails actually do protect fruit within a given range of these monster lightning rods, has been actually proved in South Africa through a period of years. That France fully appreciates their usefulness is shown by the chain of 100 parahails established throughout her fruit growing regions. The Eiffel tower is cited as one of the most powerful parahails known.

The effect of the parahail, which is founded on the theory of the neutralizing effect of the lightning conductors, is to soften the hard balls of hail which come within their zone, thus converting them to harmless snow or half-frozen mush. The hail of summer, which is accompanied by electrical storms, must not be confused with the sleet of winter. Scientists now admit the practical efficiency of parahails, and the insurance companies are cited as the most determined opponents to the establishment of a complete system of parahails throughout the fruit districts of South Africa.

Government Takes a Hand

Citrus canker, which threatened the destruction of the citrus orchards of South Africa, has been subjected to drastic measures by the government. Orchards and nursery stock which were found to be infected, have been destroyed. Many public-spirited growers have aided the government in carrying out the measures from which they themselves must suffer. Inspection will be continued in the hope of gaining complete control of this very dangerous infection.



Kindly Mention American Fruit Grower when writing to Advertisers

Our Pattern Department

No. 2512. Ladies' Dress—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 40-inch material. The skirt measures about 2 yards at the foot. Price, 10 cents.

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No. 2499. Girls' Dress—Cut in 5 sizes: 2, 3, 4, 5 and 6 years. Size 4 will require 2½ yards of 36-inch material. Price, 10 cents.

No. 2519. Ladies' Kimono—Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42; Extra Large, 44-46 inches bust measure. Size Medium



will require 5½ yards for full length, and 1½ yards less for sack length, of 36-inch material. Price, 10 cents.

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No. 2513. Child's Short Clothes Set—Cut in 5 sizes: 1, 2, 3, 4 and 5 years. Size 4 requires for the dress, 2½ yards. For the Petticoat, 1½ yards. For the Combination 1½ yards, of 36-inch material. Price, 10 cents.

No. 2495. Ladies' House Dress—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 7¾ yards of 27-inch material. The dress measures about 2½ yards at the lower edge. Price, 10 cents.

No. 2508. Girls' Dress—Cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 requires 2½ yards of 36-inch material for the dress and 1½ yards for the guimpe. Price, 10 cents.

No. 2487. Girls' Dress—Cut in 4 sizes: 8, 10, 12 and 14 years. Size 10 requires 4¼ yards of 36-inch material. Price, 10 cents.



What Is YOUR Standard Of Patriotism?



TODAY, we may all profitably analyze our patriotism, Washington and Lincoln staked their all—sacrificed everything—to uphold the principles of justice and liberty.

Just what are we doing? Just what have we sacrificed?

We are not privileged to bear arms across the sea. And many of us are not privileged to give a son, brother or a loved one.

But all of us can do a patriotic duty at home! All of us can sacrifice something to bring victory closer!

The price we pay for an extra suit of clothes—or the price of a theatre party, would bring peace and comfort—possibly the return of health—to some brave lad, if given to the **Y. M. C. A.**, the **K. of C.**, or the **Red Cross**.

In an hour like this it is not true patriotism to give merely what we don't need. True patriots will sacrifice!

We ought to earnestly and enthusi-

astically support the purchase of **War Savings Stamps**.

We ought to sacrifice something to aid the wonderful work of the **Red Cross**, **Y. M. C. A.**, and **K. of C.**

We ought to bring happiness to those who have almost forgotten what the word means by buying **Smileage Books**.

We ought to produce more and thus save food for the boys at the front. We ought to observe our country's food and fuel saving programs willingly and cheerfully. Because all these things are helping our boys "over there" in the fight for justice and liberty.

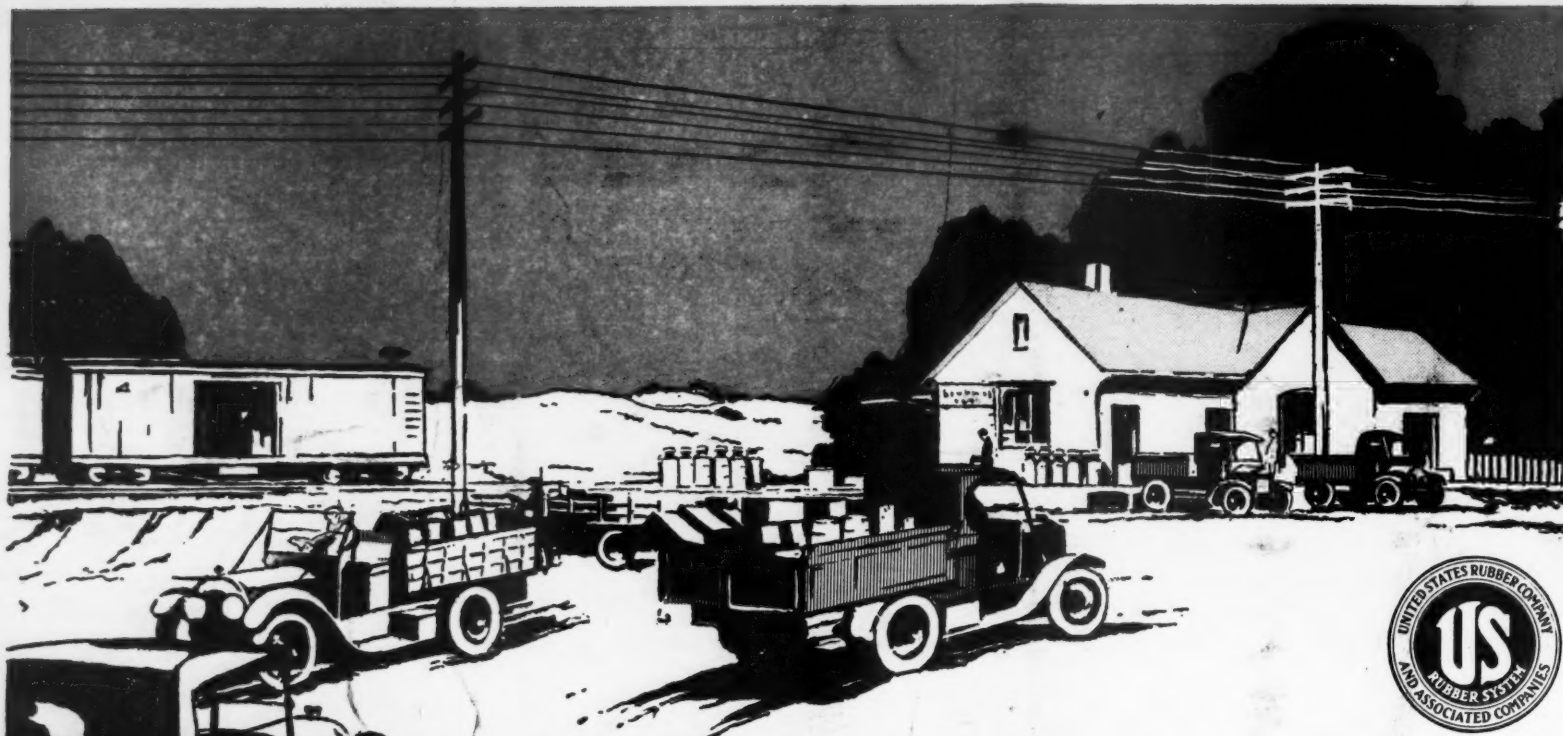
As we sit in our easy chairs today we can resolve to do a patriot's part here at home in this war. We can resolve to emulate those great patriots—Washington and Lincoln—as far as circumstances permit. We can buy **War Savings Stamps**. Buy **Smileage Books**! Give to the **Red Cross**! Do a man's part to back up the boys at the front.



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That is why the sales of United States Tires are increasing so fast in prosperous farming communities. They have demonstrated not only long-mileage qualities but greater reliability. They make your car more useful. They give a bigger return on your investment.

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Wherever you live or whatever car you drive, there is a United States Tire built especially to fit your conditions. You have a variety of treads and types from which to choose but the quality and values are always United States standards.

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